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NEW PROCEDURE FOR CONSTRUCTING EUROSYSTEM AND ECB STAFF PROJECTION RANGES

A. Introduction

ECB/Eurosystem staff projections are presented in the form of ranges. The use of ranges acknowledges the inevitable uncertainty surrounding macroeconomic projections.

Various methods have been employed by ECB staff over time to compute these ranges. From the first publication of ECB/Eurosystem staff projections in December 2000 until the publication of Eurosystem staff projections in June 2008, the published projection ranges for each variable and horizon represented twice the mean absolute projection error constructed on the basis of an analysis of historical projection errors.¹ These published ranges were derived using a short sample of projection errors, which had not been updated over time. Another, model-based method was used for the ECB/Eurosystem staff projections published from September 2008 to September 2009.² In the meantime, the sample of projection errors has been updated and further analyses have been undertaken, on the basis of which a revised projection error-based approach to constructing ranges is now implemented, embodying the track record of both Eurosystem and ECB staff projections over a longer sample of years and a correction for outliers.

B. Methodology

The width of the new Eurosystem and ECB staff projection ranges is derived from errors made in the projections conducted by Eurosystem and ECB staff in the past. More specifically, the mean absolute errors have been computed as the mean of the absolute differences between the projection for a given year and the realisation as available at the time of the June exercise of the following year. In computing the mean absolute errors, large errors are excluded from the sample of projection errors

¹ See the December 2000 issue of the ECB's Monthly Bulletin, p. 49. See also "A guide to Eurosystem staff macroeconomic projection exercises", ECB, 2001, p. 15.

² See the note entitled "New procedure for constructing ECB staff projection ranges" published on the ECB's website in September 2008.

considered on the basis of a statistical outlier correction procedure. The published ranges have a width equal to twice the outlier-corrected mean absolute error.

The ECB/Eurosystem staff macroeconomic projections are conducted each quarter and annual growth rates are reported. As a result, the length of the projection horizon depends on the timing of the projection. For example, projecting the current year in March and June of the same year involves differing projection horizons and corresponding errors. Therefore, the width of the published projection range varies according to the timing of the projection exercise within a year. For all the published variables, four different sets of ranges have to be used over the course of the year.

Ranges are also specific to the variable considered. Some variables are less predictable and more volatile than others, thereby resulting in larger projection errors, and thereby ranges. This is the case particularly for investment and trade variables.

The width of the ranges is consistent with a 57.5% confidence interval for all variables.

It is planned that the whole set of ranges will be updated every year at the time of the June projection exercise.